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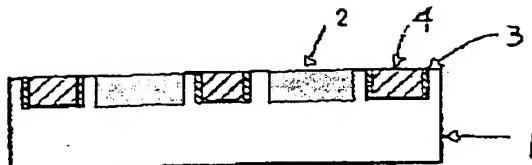
APPLICATION DATE : 12-08-97
APPLICATION NUMBER : 09217656

APPLICANT : ASAHI CHEM IND CO LTD;

INVENTOR : FUKUMOTO HIROBUMI;

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TITLE : SEMICONDUCTOR DEVICE AND
MANUFACTURE THEREOF



ABSTRACT : PROBLEM TO BE SOLVED: To reduce capacitance between wires and to reduce wiring delay of a device, by including an insulation film comprising SiO_2 and a low dielectric constant insulation film having a specific dielectric constant even if there is a small insulation film.

SOLUTION: A plasma TEOS oxide film 1 is formed as an interlayer insulation film by a plasma CVD method and flattened by a CMP method. After first groove is formed by a dry-etching method, BCB is formed into a BCB film 2 by a rotary application method. After it is completely buried in the first groove, it is cured. The BCB film 2 is a low dielectric constant insulation film having a low dielectric constant with a value of 1.2 to 3.0. A second groove is formed on a region without the BCB film 2 buried. A Ta layer 3 is formed as barrier metal. Then, a thin Cu film 4 is formed. Thus, capacitance between wires is reduced, and wiring delay of a device can be reduced, so that manufacturing a high performance semiconductor device is possible.

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